



P people
P product
P performance

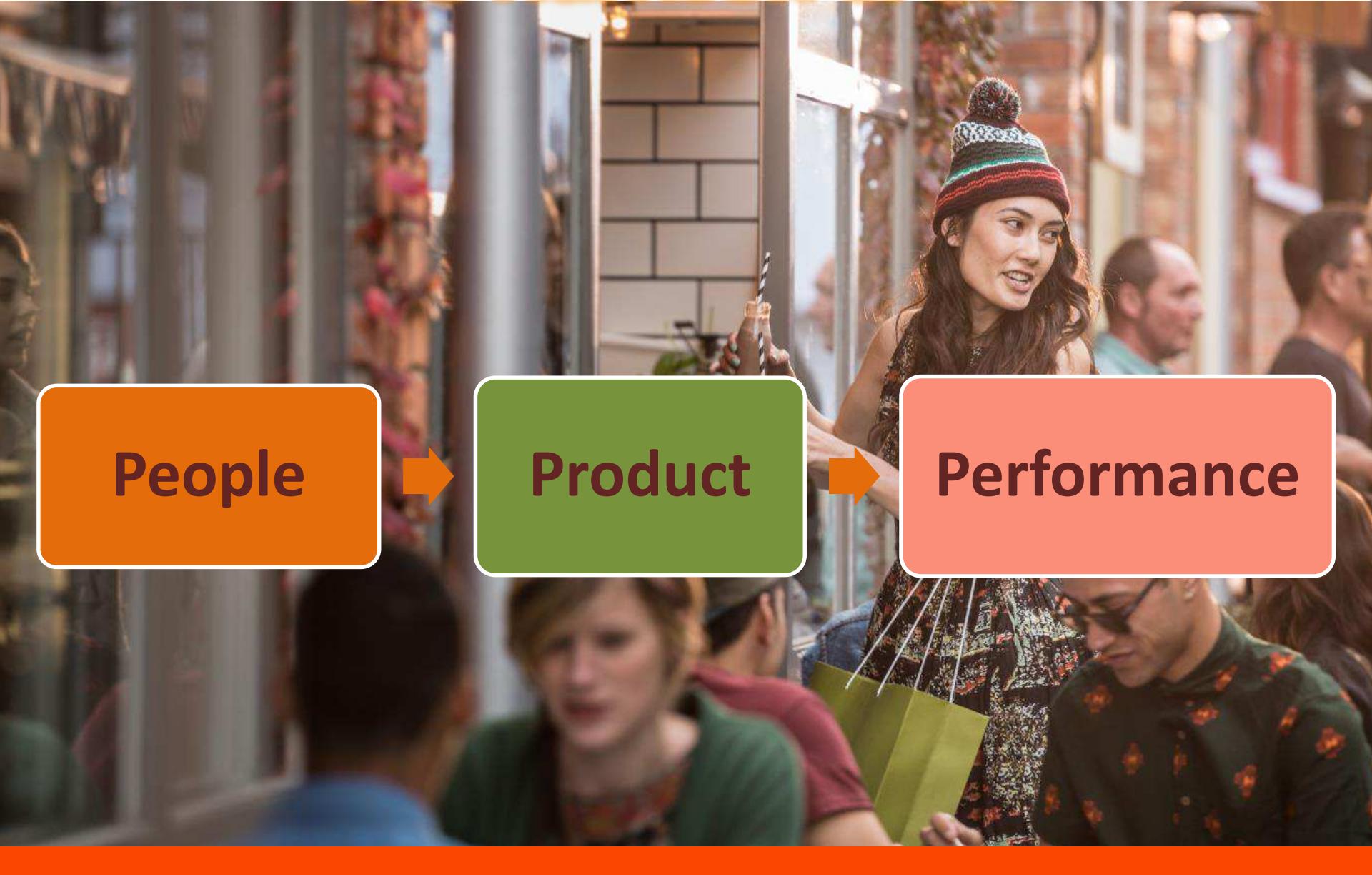
A S Harrison & Co

people...product...performance

Supercritical Fluid CO₂ extraction

SFE-CO₂

A S Harrison & Co



People

Product

Performance



People
Product
Performance



People

Our Local Team



A S Harrison & Co New Zealand



People
Product
Performance

Our Aussie Team



Our International Team





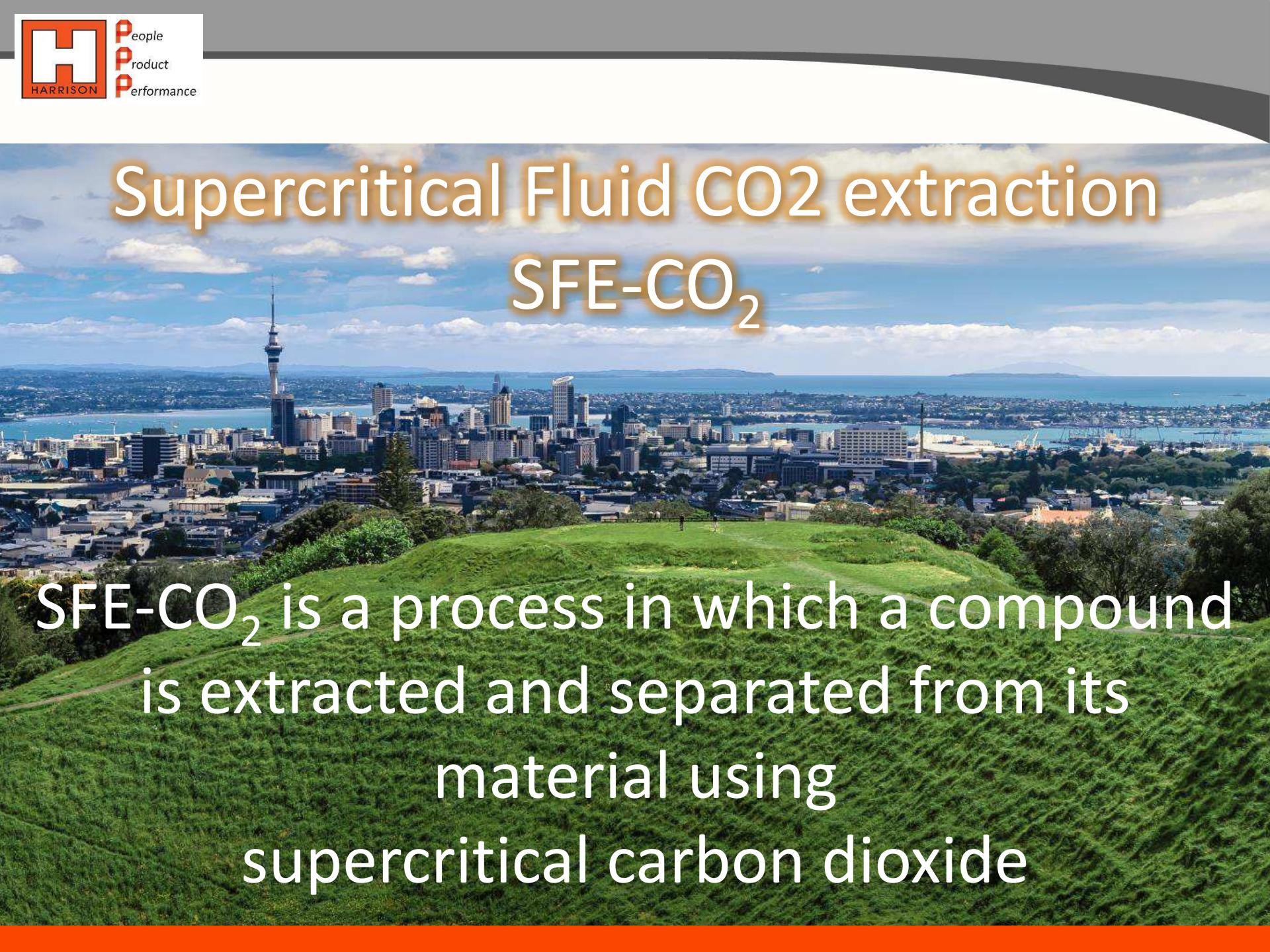
People
Product
Performance



Product

Supercritical Fluid CO₂ extraction

SFE-CO₂



SFE-CO₂ is a process in which a compound is extracted and separated from its material using supercritical carbon dioxide

Supercritical Fluid CO₂ extraction

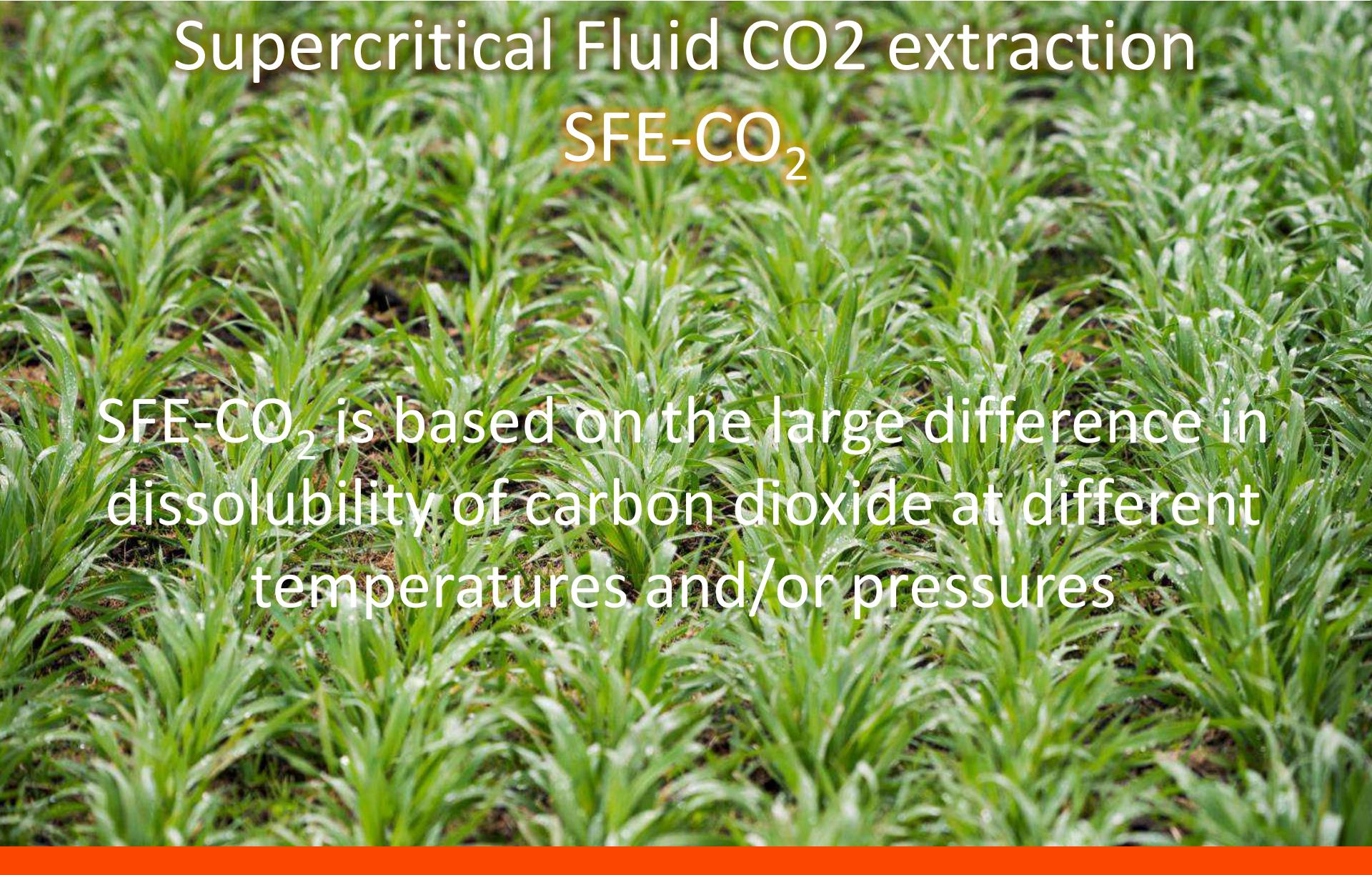
SFE-CO₂



The supercritical state of a matter means that both its temperature and pressure are higher than the critical temperature and the critical pressure respectively

Supercritical Fluid CO₂ extraction

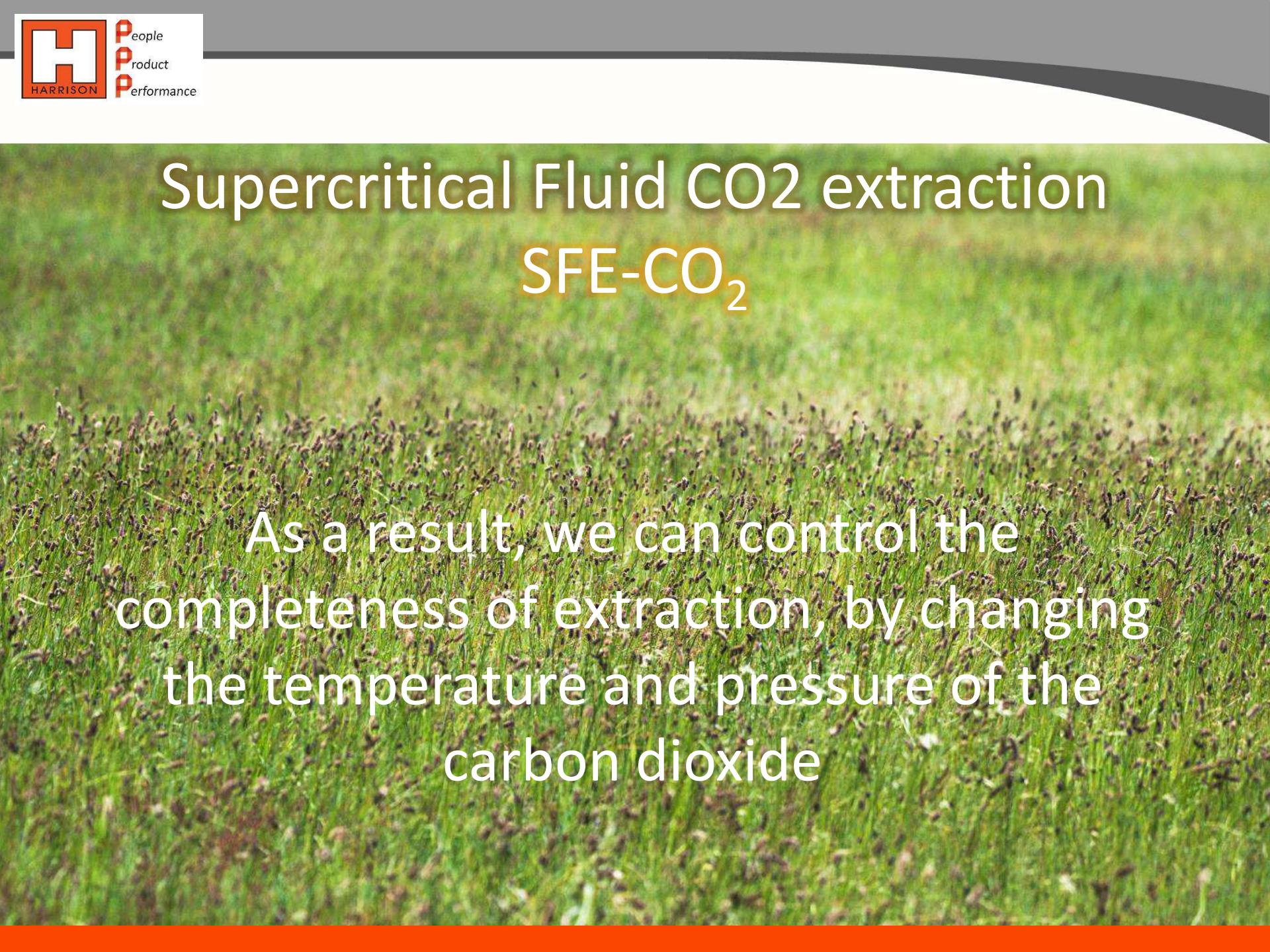
SFE-CO₂



SFE-CO₂ is based on the large difference in dissolvability of carbon dioxide at different temperatures and/or pressures

Supercritical Fluid CO₂ extraction

SFE-CO₂



As a result, we can control the completeness of extraction, by changing the temperature and pressure of the carbon dioxide



Performance

What can SFE-CO₂ deliver to you?



SFE-CO₂ is used in a variety of products including natural foods and flavours, pharmaceuticals and nutraceuticals

What can SFE-CO₂ deliver to you?



The most common use today is the extraction of essential oils, oleoresins, flavours and aromas from spices and botanicals

What can SFE-CO₂ deliver to you?



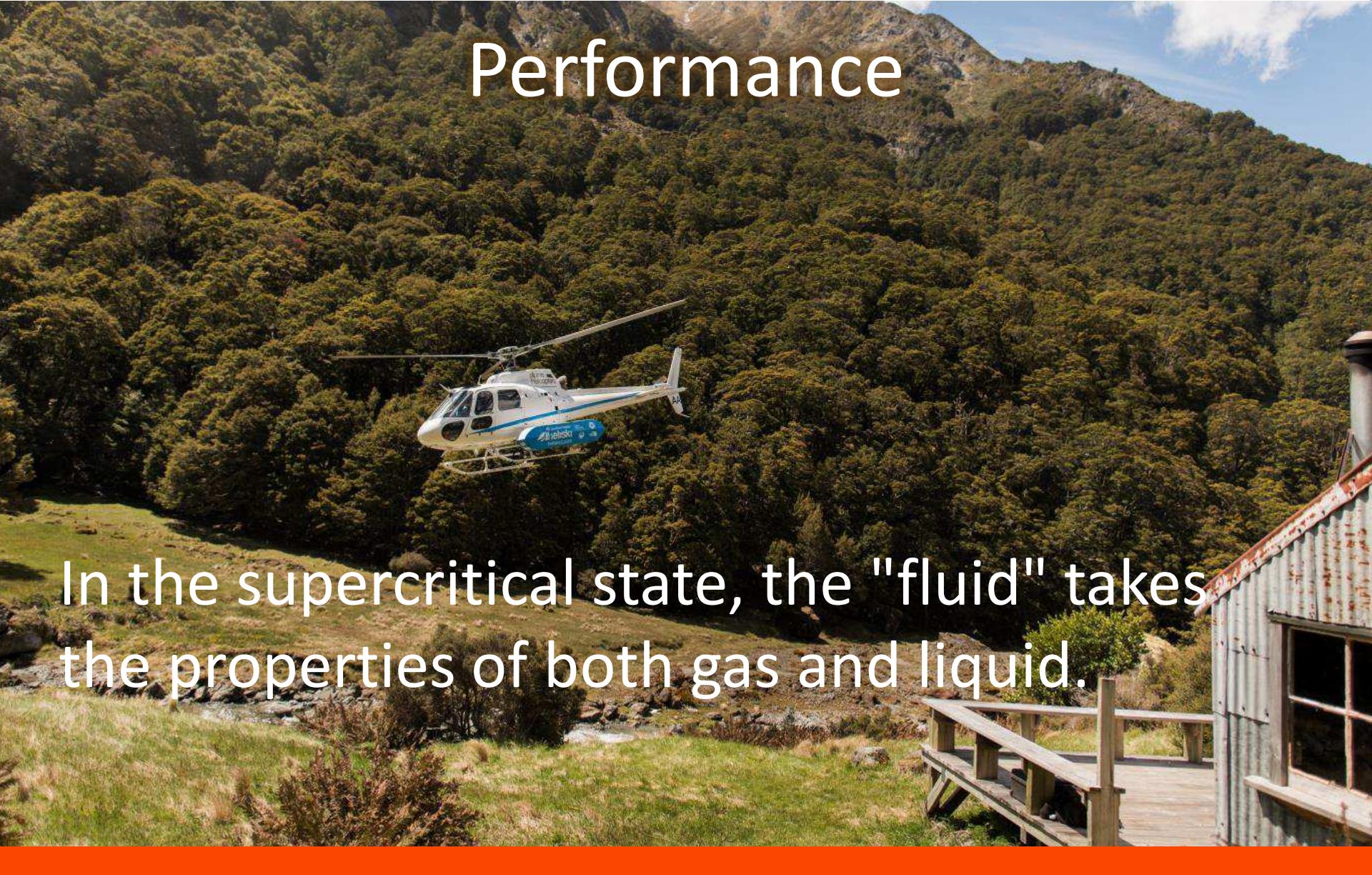
SFE-CO₂ can also remove residual organic solvents and impurities from final active compounds or food ingredients

What can SFE-CO₂ deliver to you?



The critical temperature (T_c) and pressure (P_c) at which this happens are unique to each pure substance

Performance



In the supercritical state, the "fluid" takes the properties of both gas and liquid.

What can SFE-CO₂ deliver to you?



The whole SFE-CO₂ process combines extraction, separation and concentration



People
Product
Performance

What can SFE-CO₂ deliver to you?

Supercritical fluid CO₂ extraction is environmental friendly, as the CO₂ is recovered and reused





Product

MagnoPro® Magnolia Bark Extract



Benefits:

1. Inhibits bacteria growth and viral infection
2. Assists in reducing gum disease
3. Reduces anxiety, improves sleep and relieves insomnia
4. Promotes weight loss.
5. Is a powerful antioxidant in the fight of cardiovascular diseases.

RosActiv® Rosemary Extract



Benefits

1. Is a powerful antioxidant, antiseptic and antibacterial extract
2. Is stable at high temperatures of up to 240°C
3. Reduces free radicals
4. Has skin restoring and moisturising properties
5. Reduces freckles.

PomePunic® Pomegranate Seed Oil



Benefits:

1. Pomegranate seed oil is used in cosmetic products to revitalise dull or mature skin, assist with wrinkles, and to soothe minor skin irritations
2. Pomegranate seed oil adds moisture and has natural estrogenic properties
3. Pomegranate seed oil provides relief from minor skin irritation, including dry skin, eczema and sunburned skin.



People
Product
Performance

SeabuPure® Seabuckthorn Oil



Features:

1. Recommended for external use in the case of burns and other skin damage
2. Can be used internally for the treatment of stomach ulcers
3. Sea-buckthorn oils contain high concentrations of palmitoleic acid
4. This rare fatty acid is a component of skin fat and can support cell tissue and wound healing.

Your SFE-CO₂ Extracted Product



Features and Benefits:

1. Your unique SFE-CO₂ Extracted Product
2. Comes with your unique story
3. Cannot be easily reproduced
4. Can be your “Unique Point of Difference”, and who doesn’t want that?





People
Product
Performance

Our People



Happy to help
wherever we can



P people
P product
P performance

A S Harrison & Co

people...product...performance

Supercritical Fluid CO₂ extraction

SFE-CO₂